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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/017,157 | 12/14/2001 | Anja Knuppel | Beiersdorf 756 -KGB/BSL | 1726 |
| 7055 7590 01/29/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191 | | | EXAMINER KANTAMNENI, SHOBHA | |
| | | | ART UNIT 1617 | PAPER NUMBER |
| | | | NOTIFICATION DATE 01/29/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/017,157 | KNUPPEL ET AL. | |
| | Examiner | Art Unit | |
| | Shobha Kantamneni | 1617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 64-109 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) NONE is/are allowed.
- 6) ☒ Claim(s) 64-109 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>04/10/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the applicant's response filed on 11/13/2007.

Applicant's arguments have been considered, but not found persuasive. The rejection of claims 64-109 under 35 U.S.C. 103(a) is MAINTAINED. See under response to arguments.

Currently, claims 64-109 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 64-75, 78, 87-92, 99-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kantner et al. (US 6,433,073, PTO-892 of record), in view of Kim et al. (6,372,876, PTO-892 of record), and further in view of the Handbook of Cosmetic Science and Technology.

Kantner et al. disclose oil-in-water cosmetic compositions comprising film forming polyurethane which encompass and/or read on instant polyurethanes. It is disclosed that the oil-in-water composition comprising water soluble or water-dispersable polyurethane therein have properties such as water resistance, transfer resistance. See abstract; column 5, lines 28-35; column 32, claims 23, 24. The polyurethanes therein

are cationic, anionic, or zwitterionic polyurethanes. See column 8, line 56-column 10, line 7; see Example 16 for anionic polyurethane. It is also taught that the compositions therein for outdoor application can contain photostabilizers, for example Tinuvin 292, Tinuvin 400 etc. See column 15, lines 5-9. A body lotion oil-in-water emulsion for use as waterproof sunscreen comprising 2.4 weight percent of polyurethane, and an oil-in-water emulsion useful as water-resistant mascara comprising 6.0 weight % of polyurethane are disclosed. See column 27, TABLE XVI, TABLE XVII.

Kantner et al. does not explicitly teach the employment of polyurethanes with a K value of between 25 to 100, in the waterproof O/W compositions therein.

Kantner et al. does not explicitly teach the employment of polyurethanes with a glass transition temperature of at least 15 °C, of at least 25 °C.

Kantner et al. does not explicitly teach microemulsions.

Kim et al. teach the use of polyurethanes which are soluble or dispersible in water as aids in cosmetic compositions, and the polyurethanes therein have a glass transition temperature of at least 15 °C, preferably in the range of from 30 to 100 °C, and acid numbers of from 12 to 150, K value of between 26 to 37. See column 2, lines 9-50; column 5, lines 38-45; column 8, Table. The polyurethanes are composed of at least one compound which contains two or more active hydrogens per molecule, at least one diol containing acid or salt groups, and at least one diisocyanate. For diols see Col. 3, line 53-Col. 4, line 24. The polyurethanes are taught as soluble/dispersible in water without the assistance of emulsifiers, resistant to humidity, and biodegradable.

Aqueous microdispersion comprising 1-40 % by weight of the polyurethanes is also disclosed. See column 6, lines 1-7.

The Handbook of Cosmetic Science and Technology teaches emulsions as promoting cosmetic elegance and allows otherwise impractical combinations of ingredients, i.e. oil soluble and water soluble materials, to be used in the same product. Emulsification is taught as offering great formulation flexibility, enabling modification of such parameters as feel, viscosity and appearance, to be made relatively easily. In addition, emulsions facilitate the "dosing" of active ingredients onto the skin in an aesthetically pleasing and consistent manner. Emulsions are additionally very cost effective and offer a viable means of producing a commercially successful product. See page 95. The Handbook additionally teaches that the rate of phase separation can be reduced by reducing the dispersed phase particle size. Table 4 on page 112 of the Handbook teaches microemulsions as transparent. See pages 95, 112, 115, and 117.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the polyurethane of K value of from 25 to 100, of Kim et al., as the polyurethane of Kantner et al., a) because both Kantner et al., and Kim et al. are directed toward water soluble/dispersible polyurethanes for use in cosmetics, and b) because of the expectation of achieving a sunscreen product that is resistant to humidity or water, thereby providing protection in a humid climate, and biodegradable.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the polyurethane with a glass transition temperature of at least 25

°C, and the particular acid number taught by Kim et al. because 1) both Kantner et al., and Kim et al. are directed toward water soluble/dispersible polyurethanes for use in cosmetics, and 2) Kim et al teach that the polyurethanes therein resist humidity. One of ordinary skill in the art would have been motivated to employ polyurethane with a glass transition temperature of at least 25 °C with reasonable expectation of achieving a sunscreen product with similar benefits such as water resistance i.e resistant to humidity or water, thereby providing protection in a humid climate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Handbook of Cosmetic Science and Technology to teach the sunscreen composition of Kantner et al. in the form of an oil-in-water microemulsions because of the expectation of achieving a sunscreen formulation that allows a combination of oil soluble and water soluble active materials and promotes cosmetic elegance.

It is respectfully pointed out that McGraw Hill Encyclopedia of Science and Technology defines a microemulsion as typically clear because the dispersed droplets are less than 100 nanometers in diameter.

Claims 77, 79-86, 94-98, 105-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kantner et al., in view of Kim et al., and the Handbook of Cosmetic Science and Technology as applied to claims 64-75, 78, 87-92, 99-104 above, and further in view of Koch et al (6,258,963, PTO-892 of record).

Kantner et al., Kim et al., and the Handbook of Cosmetic Science and Technology, are applied as discussed above.

The references lack the particular sunscreen agents.

Koch et al. teach cosmetic compositions comprising UV absorbers. Aminobenzoic acid derivatives, salicylate derivatives, cinnamate derivatives, phenylene-bis-benzimidazol-tetrasulphonic acid disodium salt, 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)-phenol), 2,4-bis-((4-(2-ethyl-hexyloxy)-2-hydroxy-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine and others are taught as traditional and interchangeable UV absorbers. See col. 3, line 39-col. 4, line 59.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add 2,4-bis-((4-(2-ethyl-hexyloxy)-2-hydroxy-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine or 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)-phenol) of Koch et al., to the composition of Kantner et al because a) Kantner et al teach that sunscreen actives which include triazine compounds, are present in the compositions therein, and Koch teaches that UV absorbers 2,4-bis-((4-(2-ethyl-hexyloxy)-2-hydroxy-phenyl)-6-(4-methoxyphenyl)-(1,3,5)-triazine or 2,2'-methylene-bis-(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)-phenol) are well known to be employed in cosmetic composition. Accordingly, one of ordinary skill in the art would have been motivated to employ the particular UV absorbers taught by Koch et al. with reasonable expectation of obtaining an oil-in-water waterproof sunscreen composition.

Claims 76, 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kantner et al., in view of Kim et al., and the Handbook of Cosmetic Science and Technology as applied to claims 64-75, 78, 87-92, 99-104 above, and further in view of Gers-Barlag et al. (5,725,844, PTO-892 of record).

Kantner et al., Kim et al. and the Handbook of Cosmetic Science and Technology are applied as discussed above. The reference lacks hydrodispersions.

Gers-Barlag et al. teach sunscreen formulations. O/W emulsions and hydrodispersions are taught as interchangeable cosmetic formulations for sunscreens. Hydrodispersions are taught as preferable forms because they do not impart irritation to the skin of a user as a result of surfactants, as hydrodispersions do not contain surfactants. See Col. 2, line 15-Co1.3, line 32.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the oil-in-water emulsions of the combined references in the form of hydrodispersions because Gers-Barlag et al. teach these formulations as interchangeable and because of the expectation of achieving a product that is less irritating to the skin of the user.

Response to Arguments

Applicants arguments have been fully considered, but not found persuasive as discussed below.

Applicant argues that the polyurethanes described in KANTNER AND KIM show conflicting properties. "For example, while the polyurethanes of KANTNER, when used in cosmetic compositions, must be sufficiently hydrophobic so that they are not washed off when the skin or the hair comes into contact with water (otherwise these polyurethanes would not be able to provide water resistance or substantivity to skin, nails or hair), the polyurethanes of KIM must be "sufficiently hydrophilic to be washed out of the hair". These arguments have been considered, but not found persuasive. Kantner and Kim teach that the compositions containing polyurethanes therein are employed for hair treatment. Kantner teaches that the compositions containing polyurethanes therein improve the humidity resistance when used with other hair styling agents i.e water resistance is improved. Kim also teaches that the polyurethanes employed therein, on the one hand, be sufficiently hydrophilic to be washed out of the hair but, on the other hand, be hydrophobic so that hair treated with the polymers retains its shape and not become sticky when humidity is high. Accordingly, both Kantner and Kim teach that the polyurethanes therein are hydrophobic to have sufficient humidity resistance i.e have similar properties. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the polyurethane of Kim et al., with the particular K value as the polyurethane of Kantner et al., because a) both Kantner et al., and Kim et al. are directed toward water soluble/dispersible polyurethanes for use in cosmetics applications, and b) because of the expectation of achieving a polyurethane that is soluble/dispersible in water without the assistance of emulsifiers, and because of reasonable expectation of achieving a sunscreen product

with similar benefits such as water resistance i.e resistant to humidity or water, thereby providing protection in a humid climate, and biodegradable.

It is pointed out that Applicant admits that Kim refers broadly to cosmetic compositions comprising the polyurethanes therein. Thus, Kartner and Kim are viewed as being derived from analogous art. Indeed, both Kartner and Kim are directed toward water soluble/dispersible polyurethanes for use in cosmetics. Both Kartner and Kim teach that the polyurethanes therein have hydrophobic property to resist humidity, and thus the polyurethanes of Kartner are interchangeable with the polyurethanes of Kim, and there is clear motivation to employ polyurethanes of Kim as discussed above.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period, will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Application/Control Number:
10/017,157
Art Unit: 1617

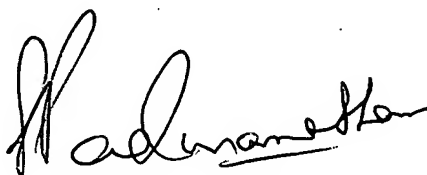
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Tuesday-Thursday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner
Art Unit : 1617



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